

## Author Index

- Alg, Robert, 14  
 Amsz, Joe, Jr., 68  
 Anderson, Harlan D., 135  
 Ayres, John C., 296, 302
- Banwart, George J., 296  
 Bartram, M. T., 130  
 Bateman, J. B., 178  
 Beesch, Samuel C., 85  
 Benedict, Robert G., 124  
 Berger, F. M., 146  
 Bilse, I. M., 142  
 Blackwell, Maurice, J., 187  
 Block, S. S., 287  
 Braley, S. A., Sr., 61, 65  
 Braun, Werner, 178  
 Brewer, Glenn A., Jr., 163  
 Butler, R. G., 96
- Campbell, Jack J. R., 156  
 Castellani, A. G., 195  
 Castor, J. G. B., 97  
 Chiao, J. S., 42  
 Cohen, Arthur L., 168  
 Colmer, Arthur R., 184  
 Corke, C. T., 110  
 Costilow, R. N., 314, 320, 327
- Dale, R. F., 68  
 Davey, V. F., 208  
 Day, William C., 78  
 Deatherage, F. E., 57  
 Delchamps, Earsie W., 255  
 Dulmage, Howard T., 103
- Eigelsbach, H. T., 178  
 Engel, S. L., 142
- Fabian, F. W., 199, 204, 243 314, 320, 327  
 Field, J. Thomas, 112  
 Foda, I. Omar, 82  
 France, R. L., 247  
 Frank, Milton A., Sr., 14  
 Frobisher, Martin, Jr., 187
- Gamble, S. J. R., 96  
 Geen, H., 70  
 Goetchius, G. R., 271  
 Gottlieb, Sidney, 78  
 Graham, D. M., 138  
 Gray, P. H. H., 211  
 Grinsfelder, H., 271
- Haddad, Samir A., 153  
 Hartman, Roberta S., 178  
 Herring, Ruth, 178  
 Hoover, Sam R., 262  
 Hurley, Norman A., 302  
 Hall, Harlow H., 124  
 Hankinson, D. J., 24  
 Hartsell, S. E., 36  
 Hubbard, C. V., 146
- Jackson, Richard W., 124  
 Jann, Gregory J., 224  
 Jasewicz, Lenore, 262  
 Johnson, Marvin J., 52, 163, 208  
 Johnson, Richard B., 252
- Kersey, R. C., 150  
 Kitos, Paul A., 156  
 Klarmann, Emil G., 19  
 Konetzka, Walter A., 171  
 Kossack, Carl F., 236  
 Krumperman, Paul H., 82
- Leechevalier, H. A., 110  
 Leghorn, F. V., 150  
 Leininger, Harold V., 119  
 Lepovetsky, B. C., 57  
 Lewis, Martha, 278  
 Lindegren, Carl C., 153  
 Litsky, Warren, 247  
 Ludwig, B. J., 146
- Martin, Walter H., 171  
 McBee, R. H., 106  
 McCleskey, C. S., 119  
 McCoy, Elizabeth, 228, 307  
 McIntyre, Lois D., 61, 65  
 McKinney, Ross E., 259  
 Michener, H. David, 215  
 Miller, M. W., 174  
 Morris, Russell C., 112  
 Moyer, Andrew J., 1, 7  
 Mrak, E. M., 174  
 Murray, F. J., 203
- Nadel, Hyman, 217  
 Nashif, S. A., 47  
 Nelson, Everett A., 135  
 Nelson, F. E., 47  
 Nisonger, L. L., 293  
 North, W. R., 130
- Pappagianis, Demosthenes, 82  
 Pelczar, Michael J., Jr., 78, 171  
 Peppler, H. J., 68  
 Pessen, Helmut, 30  
 Peterson, W. H., 42  
 Ping Shu, 68  
 Pinzelik, John, 293  
 Pivnick, Hilliard, 199, 204  
 Poe, Charles F., 112  
 Porges, Nandor, 262  
 Potter, N. N., 138  
 Pratt, Yolanda T., 171  
 Prouty, C. C., 250
- Quastel, J. H., 70, 282
- Randles, Chester, I., 217  
 Reitman, Morton, 14  
 Rodgers, R. D., 178  
 Rosenbaum, M. J., 247

## Author Index

- Alg, Robert, 14  
 Amsz, Joe, Jr., 68  
 Anderson, Harlan D., 135  
 Ayres, John C., 296, 302
- Banwart, George J., 296  
 Bartram, M. T., 130  
 Bateman, J. B., 178  
 Beesch, Samuel C., 85  
 Benedict, Robert G., 124  
 Berger, F. M., 146  
 Bilse, I. M., 142  
 Blackwell, Maurice, J., 187  
 Block, S. S., 287  
 Braley, S. A., Sr., 61, 65  
 Braun, Werner, 178  
 Brewer, Glenn A., Jr., 163  
 Butler, R. G., 96
- Campbell, Jack J. R., 156  
 Castellani, A. G., 195  
 Castor, J. G. B., 97  
 Chiao, J. S., 42  
 Cohen, Arthur L., 168  
 Colmer, Arthur R., 184  
 Corke, C. T., 110  
 Costilow, R. N., 314, 320, 327
- Dale, R. F., 68  
 Davey, V. F., 208  
 Day, William C., 78  
 Deatherage, F. E., 57  
 Delchamps, Earsie W., 255  
 Dulmage, Howard T., 103
- Eigelsbach, H. T., 178  
 Engel, S. L., 142
- Fabian, F. W., 199, 204, 243 314, 320, 327  
 Field, J. Thomas, 112  
 Foda, I. Omar, 82  
 France, R. L., 247  
 Frank, Milton A., Sr., 14  
 Frobisher, Martin, Jr., 187
- Gamble, S. J. R., 96  
 Geen, H., 70  
 Goetchius, G. R., 271  
 Gottlieb, Sidney, 78  
 Graham, D. M., 138  
 Gray, P. H. H., 211  
 Grinsfelder, H., 271
- Haddad, Samir A., 153  
 Hartman, Roberta S., 178  
 Herring, Ruth, 178  
 Hoover, Sam R., 262  
 Hurley, Norman A., 302  
 Hall, Harlow H., 124  
 Hankinson, D. J., 24  
 Hartsell, S. E., 36  
 Hubbard, C. V., 146
- Jackson, Richard W., 124  
 Jann, Gregory J., 224  
 Jasewicz, Lenore, 262  
 Johnson, Marvin J., 52, 163, 208  
 Johnson, Richard B., 252
- Kersey, R. C., 150  
 Kitos, Paul A., 156  
 Klarmann, Emil G., 19  
 Konetzka, Walter A., 171  
 Kossack, Carl F., 236  
 Krumperman, Paul H., 82
- Leechevalier, H. A., 110  
 Leghorn, F. V., 150  
 Leininger, Harold V., 119  
 Lepovetsky, B. C., 57  
 Lewis, Martha, 278  
 Lindegren, Carl C., 153  
 Litsky, Warren, 247  
 Ludwig, B. J., 146
- Martin, Walter H., 171  
 McBee, R. H., 106  
 McCleskey, C. S., 119  
 McCoy, Elizabeth, 228, 307  
 McIntyre, Lois D., 61, 65  
 McKinney, Ross E., 259  
 Michener, H. David, 215  
 Miller, M. W., 174  
 Morris, Russell C., 112  
 Moyer, Andrew J., 1, 7  
 Mrak, E. M., 174  
 Murray, F. J., 203
- Nadel, Hyman, 217  
 Nashif, S. A., 47  
 Nelson, Everett A., 135  
 Nelson, F. E., 47  
 Nisonger, L. L., 293  
 North, W. R., 130
- Pappagianis, Demosthenes, 82  
 Pelczar, Michael J., Jr., 78, 171  
 Peppler, H. J., 68  
 Pessen, Helmut, 30  
 Peterson, W. H., 42  
 Ping Shu, 68  
 Pinzelik, John, 293  
 Pivnick, Hilliard, 199, 204  
 Poe, Charles F., 112  
 Porges, Nandor, 262  
 Potter, N. N., 138  
 Pratt, Yolanda T., 171  
 Prouty, C. C., 250
- Quastel, J. H., 70, 282
- Randles, Chester, I., 217  
 Reitman, Morton, 14  
 Rodgers, R. D., 178  
 Rosenbaum, M. J., 247

- Rudert, F. J., 68  
Salle, A. J., 224  
Scholfield, P. G., 282  
Shilo, Miriam, 330  
Shilo (Shelubsky), Moshe, 330  
Shternov, Vladimir A., 19  
Siegel, Michael, 18  
Simpson, F. J., 228  
Smith, Carolyn E., 124  
Solter, Fred V., 52  
Sommermeyer, Lucille, 187  
Spencer, Francis B., 82  
Stahl, William H., 30  
Stahl, Grant L., 217  
Stark, Egon, 236  
Stedman, R. L., 142  
Stoltz, E. I., 24  
Stone, Joseph L., 160, 166  
Taylor, L. J., 211  
Temple, Kenneth L., 255  
Tetrault, Philip A., 236  
Tomlinson, Neil, 156  
Vaughn, Reese H., 82  
Vera, H. D., 117  
Walch, H. A., Jr., 224  
Wedum, Arnold G., 14  
Weichlein, Russell G., 259  
Weiser, H. H., 57, 278  
Wellerson, Ralph Jr., 236  
White, L. S., 243  
Wiesen, Carl F., 124  
Williams, Anna Maria, 307  
Winter, A. R., 278  
Won, William D., 82  
Wright, Eleanore S., 19

# Subject Index

- Acetone-butanol, fermentation of starches, 85
- Aerobacter*, fermentation of *i*-inositol by, 112
- Activated sludge, isolation of floc-producing bacteria from, 259
- Alcohols, effect on mycological production of citric acid, 1, 7
- microbiological degradation of plasticizers, 30
- polyhydric, fermentation of, 112
- Amino acids, availability of, for *Lactobacillus plantarum* in cucumber fermentations, 320
- inhibiting effects of, upon micrococci in cream pastry, 195
- w*-Amino acids, quaternary ammonium derivatives of, 142
- p*-Aminobenzyl penicillin, activity and properties of, 163
- Ammonium sulphate, efficiency of, in control of *Prymnesium parvum*, 330
- $\alpha$ -Amylase paper disc tests, bacterial, on starch agar, 236
- Amylases of *Streptomyces*, 228
- Animal feeds, assay of penicillin in, 150
- Antibacterial prolongation of potential of disinfected surfaces, 19
- Antibiotic production using sea water media, 224
- Antibiotics, lactic acid starter cultures and, 24
- screening by replica plate method, 110
- Antimicrobial action of glycerol ethers, 146
- quaternary ammonium derivatives of *w*-amino acids, 142
- Aspergillus niger*, influence of temperature on citric acid production, 156
- Assay of bacitracin variables in the, 293
- see Microbiological assay
- Azotobacter*, action of 2,4-D upon, in sugarcane soils, 184
- Bacillus stearothermophilus*, bactericidal action of subtilin on, 215
- Bacitracin, variables in assay of, 293
- Bacteria, control of, in chicken salad, 278
- fermentation of *i*-inositol, 112
- ferrous iron oxidizing, 65
- formation of acid from coal effluents by, 61, 65
- formation of acid in coal mines by autotrophic, 255
- growth of, in soluble oil emulsions, 199
- isolation of floc-producing, from activated sludge, 259
- preservation under paraffin oil, 36
- Bacterial alpha amylase paper disc tests on starch agar, 236
- indicators, of pollution in surface waters, 119
- variants, assay of, by electrophoretic method, 178
- Bactericidal action of laurylamine saccharinate, 211
- action of subtilin on *Bacillus stearothermophilus*, 215
- Bacteriophage, growth characteristics of lactic streptococcus, 138
- storage of lactic acid streptococci in desiccated state, 250
- Bacteriostatic actions of laurylamine saccharinate, 211
- Black raspberry molds, pectolytic activity of, 243
- Blendor, infectious hazards of, 14
- Bone marrow, microbiological study of, from slaughtered cattle, 57
- Carbohydrate in penicillin production, 52
- Cattle, microbiological study of lymph nodes, bone marrow, and muscle tissue from, 57
- Cellulose, microbial activity on, by rumen fluid, 106
- Chicken salad, control of bacteria in, 278
- Citric acid, alcohols and mycological production of, 1, 7
- fermentation of crude carbohydrates, 7
- influence of temperature and trace elements on production of, 156
- surface and submerged culture, 1, 7
- Clostridium acetobutylicum*, acetone-butanol fermentation of starches, 85
- Coal, autotrophic bacteria in formation of acid, 255
- bacteria in formation of acid from, 61, 65
- Coliform bacteria, comparison with enterococci in sewage, 247
- test for water pollution, 119
- Continuous feeding assembly for laboratory fermentations, 68
- in penicillin production, 208
- Cream pastry, inhibiting effects of amino acids upon micrococci in, 195
- Cucumber brines, effect of microorganisms on vitamins and amino acids of, 327
- Cucumber fermentations, microbiological studies of, 314
- vitamins and amino acids for *Lactobacillus plantarum* in, 320
- Culture preservation of bacteria under oil, 36
- Dairy products of Iowa, microbacteria from, 47
- Dairy wastes, aerobic treatment of, 262
- Degeneration of *Streptomyces griseus*, 307
- Desiccation and storage of lactic acid streptococcus bacteriophage, 250
- Dextran, environmental factors on the molecular size of, 217
- 2,4-Dichlorophenoxyacetic acid, action of, upon *Azotobacter* of sugar cane soils, 184
- glycerol ethers and related compounds, 146
- prolongation antibacterial potential, 19
- quaternary ammonium derivatives of *w*-amino acids, 142
- see also germicides
- Disinfected surfaces, prolongation antibacterial potential, 19
- Disinfecting soluble oil emulsions, 204
- Disinfection of clinical thermometers, 187
- Dried-fruit beetles in figs, yeasts associated with, 174
- Egg-products, enrichment media for isolating *Salmonella pullorum* from, 302
- Electrophoretic method for the assay of bacterial variants, 178
- Electro-ultrafilter, an efficient, 252
- Enrichment broths, effect of, upon growth of *Salmonella*, 296
- Enrichment media, for isolating *Salmonella pullorum* from egg-products, 302
- Enterococci, comparison with coliform bacteria in sewage, 247
- test for water pollution, 119
- Escherichia*, fermentation of *i*-inositol by, 112
- Escherichia coli*, mutant of, Vitamin B<sub>12</sub> assay, 42
- Esters, microbiological degradation of plasticizers, 30
- Fermentation, laboratory continuous feeding assembly, 68
- Ferrous iron oxidizing bacteria, 65
- Figs, yeasts associated with dried-fruit beetles in, 174
- Filtration of mass cultures of microorganisms, 168
- Flavobacterium* sp., ability to synthesize polysaccharides, 171
- Floc-producing bacteria, isolation from activated sludge, 259
- Germicidal value of chemical compounds in soluble oil, 204
- see also disinfectants
- testing quaternary ammonium, 271
- Glycerol ethers, antimicrobial action of, 146
- Growth factors, from B-complex vitamins of musts and wines, 97
- Harvesting of mass cultures of microorganisms, 168
- Hemicellulose, microbial activity on, by rumen fluid, 106
- Humidity requirements for mold growth, 287

- Infectious hazards of high speed blender, 14  
 Inositol fermentation of, by *Escherichia* and *Aerobacter*, 112
- Lactic acid starter cultures and antibiotics, 24  
*Streptococcus bacteriophage*, growth characteristics, 138  
*Streptococcus bacteriophage*, storage in desiccated state, 250  
*Lactobacillus plantarum*, cause of "yeast spots" on olives, 82  
 vitamins and amino acids for, in cucumber fermentations, 324
- Laurylamine saccharinate, action against naso-pharyngeal tract bacteria, 211
- Lignin, biological degradation of, 78, 171
- Loop, multiple, large inocula, 18
- Lymph nodes, microbiological study of, from slaughtered cattle, 57
- Manometric method, microbial activity of rumen, 106
- Mass cultures, harvesting of, 168
- Merthiolate, addition of, to phenolized rabies vaccine, 135
- Microbacteria, Iowa dairy products, 47
- Microbiological assay of penicillin in animal feeds, 150  
 of vitamin B<sub>12</sub> mutant of *Escherichia coli*, 42
- Microbiological degradation of plasticizers, 30
- Microbiological study of cucumber fermentations, 314  
 of lymph nodes, bone marrow, muscle tissue from slaughtered cattle, 57
- Micrococci in cream pastry, inhibiting effects of amino acids upon, 195
- Microorganisms, effect of, on vitamins and amino acids in cucumber brines, 327
- Mixer, *see* blender
- Mold, growth and humidity requirements, 287
- Molds, pectolytic activity of black raspberry, 243
- Mueller medium, color density of tetanus toxin in, 160  
 without native protein for tetanus toxin production, 166
- Muscle tissue, microbiological study of from slaughtered cattle, 57
- Musts, vitamin B-complex of, as microbial growth factors, 97
- Neomycin, production of, in synthetic media, 103
- Oil, disinfecting soluble, 204  
 growth of bacteria in soluble, 199
- Olives, *Lactobacillus plantarum* associated with "yeast spots", 82
- Paper disc tests, bacterial  $\alpha$ -amylase, 236
- Paraffin oil, preservation of bacteria under, 36
- Pectolytic activity of black raspberry molds, 243
- Penicillin, assay of, in animal feeds, 150  
 effect of carbohydrate on production of, 52  
 production with continuous carbohydrate addition, 208
- Plasticizers, microbiological degradation of, 30
- Pollution, bacterial indicators of, in surface waters, 119
- Polysporus versicolor*, inability to metabolize lignin, 78
- Polysaccharide synthesis from  $\alpha$ -conidindrin, 171
- Preservation, bacterial cultures under paraffin oil, 36
- Pyrmnesium parvum*, control of, with ammonium sulphate, 330
- Quaternary ammonium derivatives of *w*-amino acids, 142  
 testing of germicides, 271
- Rabies, improvement of vaccine potencies, 135
- Regeneration of *Streptomyces griseus*, 307
- Replica plate, screening antibiotic-producing organisms, 110
- Rumen, manometric method for evaluation of microbial activity, 106
- Salmonella*, growth of, on enrichment broths and selective agars, 296  
 isolation of, in selenite broths, 130  
*pullorum*, enrichment media for isolating, from egg-products, 302
- Sea water media, antibiotic production using, 224
- Selective agars, effect of, upon growth of *Salmonella*, 296
- Selenite broths, isolation of *Salmonella* in, 130
- Sewage, comparison of coliform bacteria and enterococci in, 247
- Soil nitrification and urethanes, 282  
 perfusion, biological degradation of sulfite waste liquor, 96  
 sugarcane, action of 2,4-D upon *Azotobacter* of, 184  
 sulphur metabolism in, 70
- Soluble oil emulsions, disinfecting, 204  
 growth of bacteria in, 199
- Starch agar, bacterial  $\alpha$ -amylase paper disc tests on, 236
- Starches, acetone-butanol fermentation of, 85
- Starter cultures, antibiotics and lactic acid, 24
- Sterility testing, 117
- Streptococcus bacteriophage*, lactic acid, growth characteristics, 138
- Streptomyces fradiae*, production of neomycin in synthetic media, 103  
*griseus*, degeneration and regeneration of, 307
- olivaceus*, vitamin B<sub>12</sub> production by, 124
- Streptomyces*, amylases of, 228
- Subtilin, bactericidal action of, on *Bacillus stearothermophilus*, 215
- Sugarcane soils, action of 2,4-D upon *Azotobacter* in, 184
- Sulfite waste liquor, biological degradation, 96
- Sulfuric constituents of coal, role of bacteria, 61, 65
- Sulphur metabolism in soil, 70
- Surface waters, pollution of, 119
- Synthetic media, production of neomycin in, 103
- Temperature, influence on citric acid production, 156
- Tetanus toxin, increasing color density with decreasing toxicity in the Mueller medium, 160  
 production of, in medium without native protein, 166
- thermometers, disinfection of clinical, 187
- Thiobacillus thiooxidans*, acid from coal effluents by, 61
- Thiosulphate, oxidizing organisms in soil, 70
- Trace elements, influence of, and temperature on citric acid production, 156
- Ultrafilter, an efficient electro-, 252
- Urethanes and soil nitrification, 282
- Vaccine, phenolized rabies, potencies improved by addition of merthiolate, 135
- Vitamin B-complex of musts and wines as microbial growth factors, 97
- Vitamin B<sub>12</sub>, assay of, with mutant *Escherichia coli*, 42  
 production with *Streptomyces olivaceus*, 124
- Vitamins, availability of, for *Lactobacillus plantarum* in cucumber fermentations, 320
- w*-Amino acids, *see* amino acids
- Waring blender, *see* blenders
- Wines, vitamin B-complex of, as microbial growth factors, 97
- Yeast cell, method for determining weight of a, 153
- Yeasts associated with dried-fruit beetles in figs, 174
- "Yeast spots" on olives, caused by *Lactobacillus plantarum*, 82





